

**IN THE CLAIMS:**

Please write the claims to read as follows:

1. (Currently Amended) A method for initiating a peer-to-peer communication session,  
2 the method comprising:
  - 3 Initiating ~~initiating~~ a boot process;
  - 4 Initializing ~~initializing~~ a cluster connection manager in the booting process before  
5 a storage operating system executing on ~~the~~<sup>a</sup> cluster partner is fully active;
  - 6 Initiating ~~initiating~~, by the cluster connection manager, a first remote direct  
7 memory access (RDMA) read operation directed to a cluster partner before a storage  
8 operating system executing on the cluster partner is fully active, the RDMA read  
9 operation bypassing the operating system;
  - 10 Performing ~~performing~~, in response to a successful first RDMA read operation, a  
11 first RDMA write operation to the cluster partner;
  - 12 Performing ~~performing~~, in response to a successful RDMA write operation, a  
13 second RDMA read operation directed to the cluster partner; and
  - 14 Performing ~~performing~~, in response to a successful second RDMA read operation,  
15 a second RDMA write operation to the cluster partner before a storage operating system  
16 executing on the cluster partner is fully active, in the booting process.
1. 2. (Original) The method of claim 1 wherein the step of attempting a first RDMA read  
2 operation further comprises the step of issuing a RDMA read operation to the cluster  
3 partner requesting a pre-set memory address location that is associated with a status  
4 variable on the cluster partner.
1. 3. (Previously Presented) The method of claim 1 further comprising :
  - 2 exchanging a set of peer connection information;
  - 3 passing a set of client information to the cluster partner;
  - 4 creating a set of appropriate communication ports;
  - 5 alerting the cluster partner of a ready status; and

6 alerting a set of clients that the cluster partner is in a ready state.

1 4. (Original) The method of claim 3 wherein the set of peer connection information  
2 comprises a version number.

1 5. (Currently Amended) The method of claim ~~4-3~~ wherein passing a set of client  
2 information to the cluster partner further comprises :  
3 collecting, from a set of clients, the set of client information; and  
4 transferring the collected set of client information to the cluster partner.

1 6. (Original) The method of claim 5 wherein the client information comprises a number  
2 of communication ports required.

1 7. (Original) The method of claim 5 wherein the set of client information further  
2 comprises an amount of memory requested by a particular client.

1 8. (Original) The method of claim 1 wherein the cluster partner is a storage system.

1 9. (Original) The method of claim 1 wherein the cluster partner is an application server.

1 10-14 (Cancelled)

1 15. (Currently Amended) A method comprising :  
2 ~~Initiating~~ initiating a boot process;  
3 ~~Initializing~~ initializing a cluster connection manager in the boot process before a  
4 storage operating system executing on ~~the~~ a cluster partner is fully active;  
5 ~~Initiating~~ initiating, a peer-to-peer communication session, by a cluster connection  
6 manager, before a storage operating system executing on the cluster partner is fully active  
7 which bypasses an operating system on a storage system by attempting a first remote  
8 direct memory access read operation directed to a predefined hardware address and a

9 predefined port number, the predefined hardware address and the predefined port number  
10 previously known to support a RDMA operation; and

11 Performing, in the booting process, before a storage operating system  
12 executing on the cluster partner is fully active, in response to a successful initiating, a  
13 first remote direct memory access write operation directed to the predefined hardware  
14 address and the predefined port number.

1 16. (Currently Amended) The method of claim 15 further comprising:

2 Performing, in response to a successful first remote direct memory  
3 access write, a second remote direct memory access read operation directed to the  
4 predefined hardware address and the predefined port number.

1 17. (Original) The method of claim 15 wherein the predefined hardware address  
2 comprises a fibre channel identifier.

1 18. (Original) The method of claim 15 wherein the predefined port number comprises a  
2 virtual interface.

1 19. (Original) The method of claim 15 wherein the first remote direct memory access is  
2 delivered to a predefined memory address storing booting status information.

1 20. (Previously Presented) A system configured to establish reliable peer-to-peer  
2 communication among storage systems of a clustered environment, the system  
3 comprising:

4 a booting process executed by a processor;

5 a peer process executing on each storage system partner having an operating  
6 system; and

7 a cluster connection manager executing on each storage system partner, the  
8 cluster connection manager establishing a reliable peer-to-peer connection between each  
9 peer process in the booting process before a storage operating system executing on a

10 cluster partner is fully active by connecting to a predetermined port number using a  
11 predetermined network address, the reliable peer-to-peer connection bypassing the  
12 operating system and initiate a remote direct memory access (RDMA) read operation  
13 directed to a cluster partner.

1 21. (Original) The system of claim 20 wherein the reliable peer-to-peer connection is  
2 established without requiring a storage operating system executing on each storage  
3 system partner to be fully functioning.

1 22. (Original) The system of claim 20 wherein the peer-to-peer connection is a virtual  
2 interface connection.

1 23. (Original) The system of claim 20 wherein the peer process is a cluster connection  
2 client that requests services from the cluster connection manager.

1 24. (Previously Presented) A system configured to open an initial peer-to-peer connection  
2 over a cluster interconnect, the system comprising:

3 a storage system having an operating system;  
4 a booting process executed by a processor;  
5 a cluster connection manager executing on the storage system, the cluster  
6 connection manager configured to establish a peer connection in the booting process  
7 before a storage operating system executing on a cluster partner is fully active on a  
8 predetermined port number and using a predetermined network address within the storage  
9 system the peer-to-peer connection bypassing the operating system and initiate a remote  
10 direct memory access (RDMA) read operation directed to a cluster partner ; and  
11 a process executing on the storage system, the process configured to use the  
12 established peer connection for communication.

1 25. (Previously Presented) The system of claim 24 wherein the peer-to-peer connection is  
2 a virtual interface connection.

- 1        26. (Previously Presented) The system of claim 24 wherein the process executing on the
- 2        storage system is a cluster connection client that requests services from the cluster
- 3        connection manager.
  
- 1        27. (Previously Presented) The system of claim 24 wherein the process executing on the
- 2        storage system communicates with a cluster partner using the established peer
- 3        connection.
  
- 1        28. (Previously Presented) A system configured to accept the initiation of a peer-to-peer
- 2        connection over a cluster interconnect, the system comprising:
  - 3            a storage system having an operating system;
  - 4            a booting process executed by a processor;
  - 5            a cluster connection manager executing on the storage system, the cluster
  - 6            connection manager configured to accept a peer connection on a predetermined port
  - 7            number and using a predetermined network address within the storage system in the
  - 8            booting process before a storage operating system executing is fully active; and
  - 9            a process executing on the storage system, the process configured to read
  - 10          information from the established peer connection.
  
- 1        29. (Previously Presented) The system of claim 28 wherein the peer-to-peer connection is
- 2        a virtual interface connection.
  
- 1        30. (Previously Presented) The system of claim 28 wherein the process executing on the
- 2        storage system is a cluster connection client that requests services from the cluster
- 3        connection manager.
  
- 1        31. (Previously Presented) The system of claim 28 wherein the process executing on the
- 2        storage system reads information from a cluster partner.

1       32. (Previously Presented) The system of claim 28 wherein the information comprises  
2       heartbeat signals.

1       33-34. (Cancelled)

1       35. (Currently Amended) computer readable medium containing executable program  
2       instructions executed by a processor, comprising:

3               program instructions that initiate a booting process;

4               program instructions that initialize a cluster connection manager in the booting  
5       process before a storage operating system executing on ~~the\_a~~ cluster partner is fully  
6       active;

7               Program program instructions that initiate, in the booting process, a first remote  
8       direct memory access (RDMA) read operation before a storage operating system  
9       executing on a cluster partner is fully active;

10          program Program-instructions that perform, in response to a successful first  
11       RDMA read operation, a first RDMA write operation to the cluster partner;

12          program Program-instructions that perform, in response to a successful RDMA  
13       write operation, a second RDMA read operation directed to the cluster partner; and

14          program Program-instructions that perform in the booting process before a storage  
15       operating system executing on the cluster partner is fully active, in response to a  
16       successful second RDMA read operation, a second RDMA write operation to the cluster  
17       partner.